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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,740	11/21/2001	George B. Hopple	CDST-C169-1P	1712

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EXAMINER	
NGUYEN, TRINH T	
ART UNIT	PAPER NUMBER

3644

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,740

Applicant(s)

HOPPLE ET AL.

Examiner

Trinh T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Election dated on 11/10/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-25 and 28-30 is/are rejected.
- 7) ☐ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/8/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 17-30 in Paper No. 9 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17, 18, 20, 24, 25, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Fahlen et al. (US 5,589,731).

Fahlen et al. disclose a method of fabricating a support structure comprising: attaching a layer of material onto a substrate surface; forming the layer of material into the support structure; treating the layer of material; and etching the layer of material, such that the support structure is implementable during assembly of a display device.

For claim 18, Fahlen et al. further disclose the layer of material is photochemically sensitive glass and the substrate surface is glass (see lines 45-67 of col. 23).

For claim 20, Fahlen et al. further disclose that it is well known to perform a diffusion bonding process between substrates (see lines 65-67 of col. 18).

For claim 24, Fahlen et al. further disclose forming the layer of material by performing a photolithographic process.

For claim 25, Fahlen et al. further disclose treating the layer of material by applying an elevated temperature.

For claims 28 and 29, Fahlen et al. further disclose that it is well known to have the substrate surface of either an anode faceplate or a cathode back plate and that the support structure is interposed between the anode faceplate and the cathode back plate.

For claim 30, Fahlen et al. further disclose the display device is an field emission display.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen et al. (US 5,589,731).

Fahlen et al. disclose most of the claimed invention except for indicating that: (1) the layer of material is photochemically insensitive glass; and (2) attaching the layers by performing a thin film sealing glass process.

Regarding (1), with respect to the use of a specific material such as photochemically insensitive glass, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select such a material, since it has been held to be within the general skill of a worker in the art to select a known material on the

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basis of its suitability for the intended use or/and a known material with an adequate yield strength and hardness in order to provide a support structure with an efficient load carrying capacity.

Regarding (2), an Official Notice is taken that attaching layers by performing a thin film sealing glass process is a well known in the bonding art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted Fahlen et al.'s diffusion bonding process with the thin film sealing glass process, in light of the Official Notice taken, in order to provide an efficient bond between layers and since it is well known in the bonding art to substitute one type of bonding process for another, depending on manufacturing requirements and cost constraints.

6. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahlen et al. (US 5,589,731) in view of Haven et al. (US 6,288,483).

Fahlen et al. disclose most of the claimed invention except for the step of blackening the surface of the layer of material.

Haven et al. teach that it is old and well known to blackening a surface of a layer of material and/or of a substrate during a method of fabricating a spacer/support structure in the area of field emission display in order to improve the image contrast thereof. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Fahlen et al. so as to include the step of blackening, in a similar manner as taught in Haven et al., in order to improve the overall image contrast of the display device.

Allowable Subject Matter

7. Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

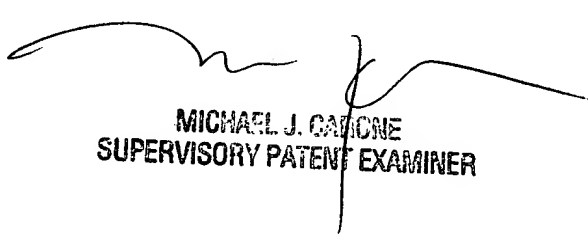
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited on form PTO-892 encloses herewith.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T Nguyen whose telephone number is (703) 306-9082. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on (703) 306-4159. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

ttn
12/12/03



MICHAEL J. CATONE
SUPERVISORY PATENT EXAMINER